

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Appln. No.: 09/871,837

Appellants: Ortowski *et al.*

Filed: June 1, 2001

Docket No.: 10010629-1
(TKHR 050110-1740)

Art Unit: 2833

Examiner: Leon, Edwin A.

Honorable Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. §1.192

Sir:

This is an appeal from the decision of Examiner Edwin Leon, Art Unit 2833, of March 7, 2003 (Paper No. 15), rejecting all claims 1-5, 7, 9-11, and 22 in the present application and making the rejection FINAL.

I. REAL PARTY IN INTEREST

The real party in interest of the instant application is Agilent Technologies, a California corporation, having its principal place of business in Palo Alto, California.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

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III. STATUS OF THE CLAIMS

Claims 1-5, 7, 9-11, and 22 are pending in the application. The FINAL Office Action, mailed March 7, 2003, rejected claims 1-5, 7, 9, and 22 under 35 U.S.C. §103(a) as being unpatentable over *Pepe* (U.S. Patent No. 5,836,786). Also, the FINAL Office Action rejected claims 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over *Pepe* (U.S. Patent No. 5,836,786) in view of *Daoud* (U.S. Patent No. 6,139,356). Therefore, in this regard, all claims 1-5, 7, 9-11, and 22 are under appeal.

IV. STATUS OF AMENDMENTS

No amendment has been submitted after the FINAL Office Action.

V. SUMMARY OF THE INVENTION

As disclosed in the present application, the present invention is related to the field of electrical test equipment that is connected to rack structures. The present invention is directed to interfaces connected to the rack structures to interface test equipment with a variety of testable devices. The interfaces secure a desired combination of connectors to allow multiple devices to be easily yet securely attached to the test equipment for testing. The devices may then be easily removed from the test equipment after testing.

In particular, test systems often need to be reconfigured in order to enable a technician to perform testing on a variety of devices. The interface of the present invention supports various types of connectors and can be quickly changed as needed. The interface provides for the ability to replace connectors by removing only a minimum amount of hardware. In addition, the interface consumes a minimal amount of rack space on a rack structure.

The interface contains a main panel and a variety of sub-panels made of sheet metal. The main panel mounts in a standard 19-inch rack and is preferably a single rack-unit tall.

The main panel may contain up to eight locations for mounting smaller sub-panels.

Each sub-panel contains a cut-out used to mount a connector for access to a particular system resource or instrument. The sub-panels are then attached to the main panel using two screws that mate with captive nuts in the main panel. The interface provides the flexibility to utilize a large number of connectors that can be reconfigured in a short amount of time.

Illustrated in FIG. 2 is a main panel 31 of the modular system interface 30 of the present invention. The modular system interface 30 comprises a number of bolt-in sub-panels that will allow various types of connectors to be mounted to the main panel 31. The main panel 31 of the modular system interface 30 includes cut-outs 37 for receiving the sub-panels. Receptacles 35 receive threaded material within the main panel 31 for attaching the sub-panels to the main panel 31. As shown in FIG. 2, the main panel 31 includes two pairs of receptacles 35 for each cut-out. Each pair of receptacles 35, located on opposite sides of the cut-out, designates one of two slots in the cut-out where a sub-panel can be received.

FIGS. 3-7 illustrate various sub-panel assemblies having sub-panels 51, 61, 71, 81, and 91. Each sub-panel is designed for a particular type of connector and includes connector cut-outs for receiving the respective connector. The sub-panels 51, 61, 71, 81, and 91 have attaching means 59, 69, 79, 89, and 99, respectively, for attaching the sub-panels to the main panel 31 (FIG. 2). Sub-panels 51, 61, 71, and 81 are one slot wide and span across one slot of a cut-out 37 and sub-panel 91 is two slots wide and spans across both slots of a cut-out 37.

VI. CONCISE STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

The first issue in this appeal is whether claims 1-5, 7, 9, and 22, under 35 U.S.C. §103(a), are unpatentable over *Pepe* (U.S. Patent No. 5,836,786).

The second issue in this appeal is whether claims 10 and 11, under 35 U.S.C. §103(a), are unpatentable over *Pepe* (U.S. Patent No. 5,836,786) in view of *Daoud* (U.S. Patent No. 6,139,356).

VII. GROUPING OF THE CLAIMS

All claims 1-5, 7, 9-11, and 22 either stand or fall together.

VIII. ARGUMENT

A. References Relied Upon to Support the 35 U.S.C. 103 Rejection

Pepe discloses a multi-port patch panel that serves as a mounting platform for a plurality of connectors. The patch panel has a mounting panel 10, an interface housing 20 attached to the mounting panel 10, and a connector assembly 30 removably attached to the interface housing 20. The interface housing 20 is attached to the mounting panel 10 by a first snap latch means comprising a pair of resilient latch arms 22. Each latch arm 22 has a beveled leading edge 24 that engages an interior edge 14 of the mounting panel 10. The connector assembly 30 contains a circuit board 32 that supports one or more connectors. The circuit board 32 includes margins 38 that are captured by latch tabs 26 on the interface housing 20.

Daoud discloses a block labeling system for labeling connector blocks 10 to facilitate expansion and identification of connectors 12 in one or more of the connector blocks 10. Each connector block 10 comprises a base 11, a plurality of connectors 12, and raised pedestals 13. The raised pedestals 13 have flat top surfaces 16 for application of self-adhesive labels 20.

B. Claims of the Present Application

Claim 1, the sole independent claim, is directed to a modular system interface comprising a main panel, a plurality of sub-panels, and a plurality of connectors. The main panel is configured to be attachable to a rack and includes a plurality of sub-panel cut-outs, each sub-panel cut-out having two sub-panel slots. The main panel further includes a pair of attachment elements located adjacent to each of the sub-panel slots, the attachment elements of each pair positioned on opposite sides of the respective sub-panel slot. The sub-panels are configured to be attachable to the main panel, each sub-panel spanning across a respective sub-panel slot and individually attaching to a respective pair of attachment elements. At least one sub-panel includes at least one connector cut-out and is configured to support one predetermined type of connector. The connectors are configured to be insertable in the at least one connector cut-out and attachable to the respective sub-panel.

C. Discussion of the 35 U.S.C. 103 Rejections

1. Claim 1

In response to the 35 U.S.C. 103(a) rejection, Appellants contend that *Pepe* does not disclose, teach, or suggest all of the elements of independent claim 1. For example, claim 1 recites “*each sub-panel cut-out having two sub-panel slots.*” Since each sub-panel slot of the present application is capable of receiving a sub-panel, up to two sub-panels may be connected across each sub-panel cut-out at any time. Although *Pepe* discloses a mounting panel 10 having apertures 12, *Pepe* fails to further teach or suggest that each aperture 12 includes “two sub-panel slots” as claimed. *Pepe* appears to disclose a conventional arrangement in which each aperture 12 is sized to accept only one element. Also, since each interface housing 20 of *Pepe* fills an entire aperture 12, the aperture 12 would be incapable of receiving a second component. Furthermore, the snap on connection taught by *Pepe* relies on

the interface housing 20 spanning the whole width of the aperture 12 to engage both interior edges 14 of the mounting panel 10. If it does not span the whole width, the snap together connection could not be possible.

Claim 1 further recites that the main panel includes ***“a pair of attachment elements located adjacent to each of the sub-panel slots.”*** Also, the pair of attachment elements, located adjacent to each of the sub-panel slots, are ***“positioned on opposite sides of the respective sub-panel slot.”*** *Pepe* does not teach or suggest attachment elements that are “adjacent” to sub-panel slots and positioned on opposite sides of the sub-panel slots. *Pepe*’s snap on construction does not use attachment elements per se. Any structure that *Pepe* may use for attaching is not “adjacent” to the slots as claimed, but is an interior edge 14 of an aperture. Furthermore, *Pepe* fails to teach a “pair” of attachment elements as claimed.

Since each sub-panel cut-out includes two sub-panel slots and since a pair of attachment elements are positioned on opposite sides of each sub-panel slot, four attachment elements are positioned adjacent to each sub-panel cut-out. In contrast to claim 1, *Pepe* discloses an interior edge of the aperture 12 and fails to disclose four attachment elements.

The modular system interface of claim 1 includes a plurality of sub-panel cut-outs, wherein each sub-panel cut-out has two sub-panel slots, and each sub-panel slot has a pair of attachment elements located adjacent thereto. Therefore, as claimed, there are at least two sub-panel cut-outs, at least four sub-panel slots, and at least eight attachment elements. *Pepe* fails to disclose at least eight attachment elements. With this claimed configuration, the modular system interface of the present application may be easily customized and/or reconfigured with various types of connectors by connecting and/or disconnecting desired sub-panels to the attachment elements.

Claim 1 further recites that ***“each sub-panel spans across a respective sub-panel slot.”*** With two sub-panel slots and each sub-panel spanning across one sub-panel slots, the

claimed modular system interface can have up to two sub-panels spanning across each sub-panel cut-out. *Pepe* does not teach or suggest up to two sub-panels spanning across sub-panel slots. *Pepe*'s device is incapable of spanning two sub-panels across each sub-panel cut-out because the interface housing 20 of *Pepe* fills the entire aperture leaving no additional space for a second interface housing. There is no room in *Pepe*'s aperture 12 for two sub-panels spanning across the sub-panel slots as claimed.

2. Claims 2-5, 7, 9, and 22

Dependent claims 2-5, 7, 9, and 22 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). Also, Appellants respectfully traverse the statements made in the Office Action with respect to the dependent claims and contend that these claims contain additional patentable subject matter.

For example, claim 2 recites that the main panel further comprises ***“a feed-through hole having sufficient dimensions to allow pass-through of a cable.”*** *Pepe* does not teach or suggest an extra feed-through hole beyond the apertures 12.

Claim 7 recites that ***“the attachment elements comprise a threaded structure.”*** *Pepe* does not teach or suggest a threaded structure and does not provide the motivation to modify the patch panel to include such a structure because *Pepe* provides a “snap together” construction for easy assembly and disassembly. There is no motivation taught in *Pepe* or in the prior art for altering *Pepe* to include threaded structures. Furthermore, such an alteration would negatively affect *Pepe*'s easy assembly snap on device. There would therefore be no reasonable expectation of success for modifying the device of *Pepe*.

Claim 22 recites that ***“at least one sub-panel spans across both sub-panel slots of a respective sub-panel cut-out and is attachable to the two respective pairs of attachment***

elements.” *Pepe* does not teach or suggest such a sub-panel that spans across both sub-panel slots of a sub-panel cut-out and that attaches to both pairs of attachment elements.

3. Claims 10 and 11

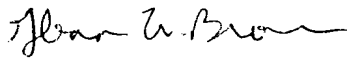
Dependent claims 10 and 11 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. *In re Fine, supra.* *Daoud* fails to overcome the deficiencies of *Pepe*, as mentioned above with respect to independent claim 1 from which these claims depend. Like *Pepe*, *Daoud* also fails to teach or suggest ***“each sub-panel cut-out having two sub-panel slots,” “a pair of attachment elements located adjacent to each of the sub-panel slots, the attachment elements of each pair positioned on opposite sides of the respective sub-panel slot,” and “each sub-panel spans across a respective sub-panel slot.”*** Therefore, since *Pepe* and *Daoud*, taken alone or in combination, fail to teach or suggest at least these elements of claim 1, it is respectfully requested that the Examiner’s final rejection be withdrawn.

IX. CONCLUSION

Based upon the foregoing discussion, Appellants respectfully assert that the Examiner's final rejection of claims 1-5, 7, 9-11, and 22 is improper. Appellants respectfully request that the rejections be overruled and withdrawn by the Board, and that the application be allowed to issue as a patent with all pending claims.

Please charge Agilent's deposit account no. 50-1078 in the amount of \$320 for the filing of this Appeal Brief. No additional fees are believed to be due in connection with this Appeal Brief. If, however, any additional fees are deemed to be payable, you are hereby authorized to charge any such fees to deposit account no. 50-1078.

Respectfully submitted,



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X. APPENDIX

Claims:

1. A modular system interface comprising:

a main panel configured to be attachable to a rack, the main panel including a plurality of sub-panel cut-outs, each sub-panel cut-out having two sub-panel slots, the main panel further including a pair of attachment elements located adjacent to each of the sub-panel slots, the attachment elements of each pair positioned on opposite sides of the respective sub-panel slot;

a plurality of sub-panels configured to be attachable to the main panel, at least one sub-panel including at least one connector cut-out, wherein each sub-panel spans across a respective sub-panel slot and individually attaches to a respective pair of attachment elements; and

a plurality of connectors configured to be insertable in the at least one connector cut-out and attachable to the respective sub-panel, wherein the at least one sub-panel is configured to support one predetermined type of connector.

2. The modular system interface of claim 1, wherein the main panel further comprises:

a feed-through hole having sufficient dimensions to allow pass-through of a cable.

3. The modular system interface of claim 1, wherein the main panel further comprises:

a bottom support that provides support for the main panel on the rack.

4. The modular system interface of claim 1, wherein the main panel further comprises:

a top support that provides support for the main panel on the rack.

5. The modular system interface of claim 1, wherein the main panel is stamped from sheet metal.

7. The modular system interface of claim 1, wherein the attachment elements comprise a threaded structure.

9. The modular system interface of claim 1, wherein each sub-panel further comprises:

means for attaching to the main panel.

10. The modular system interface of claim 1, wherein each sub-panel further comprises:

a label marking area to identify the respective predetermined type of connector.

11. The modular system interface of claim 10, wherein an adhesive mylar label is attached to the label marking area.

22. The modular system interface of claim 1, wherein at least one sub-panel spans across both sub-panel slots of a respective sub-panel cut-out and is attachable to the two respective pairs of attachment elements.